

## **RV Brooks McCall Data Summary Cruise 6/25/2010**

Review Date 6/26/10

### **Summary:**

This sampling report presents data collected from the RV Brooks McCall for the period of 6/25/2010. The RV Brooks McCall will alternate with the Ocean Veritas in the collection of subsurface data associated with the Deepwater Horizon oil spill. The sampling strategy for the day was to continue monitoring in the southwest to gather baseline data for Lawrence Berkley Labs from the benchmark station (located 1.2 km southwest of the wellhead), before trying to locate the northwest edge of the plume. The benchmark station has been visited nine times previously. Stations occupied during this reporting period include BM107 – BM111.

The Brooks McCall included the following definition to provide common terminology on how subsurface oil is referred to:

*Oil Plume:* concentrations of oil (above background) in the water column that appears to be part of a larger pattern of dispersed oil based on real-time fluorometry and LISST particle analysis.

The CTD array data showed fluorescence signals at Stations BM107, BM108 and BM109. No fluorescence signals were observed at Stations BM110 and BM111.

A total of 12,085 gallons of subsurface dispersant was used on 6/25/2010. The average injection rate was not provided.

Rototox tests were started today (6/25/2010) for samples BM107-BM111 with results due to be reported on 6/26/2010. Rototox tests for BM103-BM106 were completed today and results have been submitted. The Brooks McCall also collected eighty-two (82) samples for TPH and eighty-two (82) samples for VOC analysis, including duplicates.

### **CTD Fluorometry & Dissolved Oxygen:**

Station BM107 was located 2.5 km west-southwest of the well head. BM108 was located 2.7 km southwest of the wellhead. BM109 was located 1.2 km southwest of the wellhead and considered to be the benchmark site. Stations BM110 and BM111 were located 5 km southwest and 3.3 km northwest of the wellhead, respectively. A total of 5 CTD casts were completed on 6/25/2010.

Station BM107 showed a fluorescence signals from 1080-1180 m, with dual peaks at 1140 m and 1160 m. A drop in dissolved oxygen was observed at 940m; this drop in D.O. is not associated with the fluorescence signals. Station

BM108 detected a fluorescence signal from 1140-1170 m. Again, an unassociated drop in dissolved oxygen was observed at approximately 930 m. Station BM109 had a fluorescence signal from 1060-1200 m. No drops in dissolved oxygen were associated with the fluorescence signal. No fluorescence signals were detected at Stations BM110 or BM111.

Based on this information, the Brooks McCall reported the subsurface plume to be relatively well identified and is confined primarily to the west and estimated to be 3 km in width and at least 5 km in length.

**LISST Data:**

The LISST data was collected at the four sampled stations. Seventy-seven (77) LISST samples were collected from all five sample locations. Elevated concentrations of small particles were observed at depths corresponding to the subsurface plume detected by the CTD fluorometer. Slightly higher concentrations of small particles were seen at the surface at stations BM109 and BM111 than the other stations samples today.

**Toxicity Testing (Rototox Assay) (data collected from 6/25):**

Rototox tests were started today (6/25/2010) for samples BM107-BM111 with results due to be reported on 6/26/2010. Rototox tests for BM103-BM106 were completed today and results have been submitted.

**Chemical Analyses (TPH and VOCs) (data collected from 6/25):**

Eighty-two (82) samples were collected for TPH analysis and eighty-two (82) samples were collected for VOC analysis. No data were provided for review at this time due to laboratory lag time.

